

EXHIBIT 1

October 4, 2000

VIA FEDERAL EXPRESS

302 8502 486

Daniel P. Morris, Esq.
IBM Corporation
T.J. Watson Research Center
P.O. Box 218
Yorktown Heights, New York 10598

Re: New U.S. Patent Application
VOLUNTEER NETWORK SUPPORT GROUP
FOR PEOPLE WITH DISABILITIES
Your Ref: YOR920000454US1
Our Docket: 13808

Dear Dan:

Enclosed herewith is a copy of the final draft application which was forwarded to the inventors along with the Declaration and Assignment documents for their execution. In addition, we enclose an Associate Power of Attorney document for your signature so that we may file same with the United States Patent and Trademark Office.

If you have any questions, please do not hesitate to contact me.

Sincerely,

John S. Sensny

JSS:gc
Enclosures

VOLUNTEER NETWORK SUPPORT GROUP
FOR PEOPLE WITH DISABILITIES

BACKGROUND OF THE INVENTION

5

Field of the Invention

10

This invention generally relate to a business method for providing help to people with disabilities by organizing a network of volunteers and technical means for communicating for supporting the network.

Prior Art

15

20

Often times people need assistance when no professional help is available. For example, if someone on a train is hurt or in need of medical assistance, then a loudspeaker may announce that a doctor is needed. A similar scenario may occur on an airplane. This is an example of being able to help someone who is in obvious need of medical attention and people have noticed. Another example of people with disabilities receiving aid from people in their near surroundings is when a blind person is attempting to cross the street. In some instances, a passing stranger may assist the blind person in crossing the street safely.

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These are examples of how people with disabilities may receive assistance from others in their environment. However, there are numerous other examples and scenarios where people in need of assistance do not receive any aid. It is necessary to set up a system where people

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with many types of disabilities can receive assistance from volunteers.

SUMMARY OF THE INVENTION

5 One object of the invention is to provide a business method for organizing volunteers for helping people with disabilities.

10 Another object of the invention is to provide technical means that support communication between volunteers and people with disabilities (PwD) through network.

Another object of the invention is a mechanism for choosing volunteers that match Pwd needs.

15 In accordance with this invention, people who would like to assist people with disabilities may join a service and receive a wearable device or a palmtop that can communicate wirelessly through a network. People that
20 join the volunteer network describe the type of disability they are willing/certified to assist with, available time and other relevant information. People with disabilities also join the volunteer service network and are provided with a wearable wireless device (i.e.
25 Palm top). Disabled persons also specify their particular disability as well as services that they may require.

30 An example of how these volunteers may be of use is: When a volunteer is going to work in the morning on the train,

the service can connect them through the network to a blind person, and the volunteer may assist the blind person by reading a newspaper through the wireless device (like a cellular telephone). Another example is if a
5 volunteer knows sign language and a hearing impaired person is in need of an interpreter, the audio of the conversation of the disabled person can be transmitted via the wireless device to the volunteer who can, in turn, translate into sign language and be visually
10 depicted on a screen of the disabled person; or if the volunteer is nearby, they can send a signal to the hearing-impaired person that they will come and assist them as soon as possible. Global positioning may be used in order to assist in determining the positions of
15 volunteers and disabled persons to provide more efficient and expedient assistance to people who are near to each other.

Another example is, if a person is unable to move (i.e. quadriplegic, Multiple Sclerosis, Parkinson's Disease, etc.) and needs some type of goods, whether clothing or
20 food. This person may contact the Volunteer Network with a request, and the system can find a volunteer who is near or maybe even in the same building who can bring the requested item. If any prescriptions or medicines need
25 to be delivered by somebody who is in the vicinity of another volunteer, the system can find them and request the two volunteers to cooperate in the retrieval and delivery of the medicines (or other goods). A more

detailed description of the methodology and examples may be found in the detailed description of figures.

Further benefits and advantages of the invention will become apparent from a consideration of the following detailed description, given with reference to the accompanying drawings, which specify and show preferred embodiments of the invention.

Brief Description of The Drawings

Figure 1 is a general block diagram illustrating a network embodying this invention.

Figure 2 shows an example of a database of persons with disabilities.

Figure 3 shows an example of a database of volunteers.

Figure 4 describes a matching server that may be employed in the network of Figure 1.

Figure 5 describes a cellular portable device that may be used in the network of Figure 1.

Figure 6 is a flow chart illustrating a method of practicing this invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Module 100 in Figure 1 symbolizes the general network. People 103, 104 that carry the wireless/cellular device 108 are connected to the network 100. The wireless device 108 may also transmit to another wireless device 108. If there is a crowd of people 130 and the person 103 needs assistance but does not know where to go on street 140, person 103 can send a signal to person 104 via the wireless devices 108 that help is needed. This signal from 108 to 108 is sent locally and not through the network because these people are not far from each other and the volunteer 104 receives the message via audio or beep/text. Because these people are not far from each other, volunteer 104 can notice the disabled person/person in need of assistance and walk/drive over and assist the person.

Another scenario for the implementation of this device is on a train 106 and there are two people with two devices, person 111 with device 109 and person 107 with device 109, sitting in different parts of the train. If person 107 needs assistance with a conversation (a sign interpreter) the person sends a signal through the device 109 through a cellular provider 120 that sends a signal to the global positioning system 110 that notifies the person of the volunteer's location. The device 109 then sends this information to a local cellular provider that sends a signal to any volunteers on the train (that may know sign language) through their device 109 that may

then come to the person in need of assistance 107 and translate for them. The network is connected to a database 101 that contains a description of all of the people with disabilities that are connected to the server 105. A detailed description of the information on the database is given below. Another database of volunteers 102 is connected to the server 105 via the network 100. The particulars of the volunteer database will be further discussed below.

The matching server 105 uses the information in database servers 101 and 102 to notify people with disabilities and volunteers what types of services it may offer. For example, the matching server may find some people who need a newspaper read to them because they are blind during a certain time. The matching server finds that there are volunteers available to assist the blind people (because they may be riding home from work on the train) and the server contacts the volunteers and asks them to read the newspaper/book or other information to the disable persons over the cellular phone. As in the previous example where person 111 can read a newspaper over the cellular phone to person in need of assistance 140 at home 150.

There two different ways how people may find themselves. The global positioning system that finds the coordinates of people, where two people are connected to the network and they require assistance, they send a message through the network to two people who may be able to assist them

and the global positioning system helps them find each other.

5 The GPS satellites are highly accurate atomic clocks.
They broadcast their current time using extremely wide
band signals. The receiver picks up the time from (at
least) four satellites and measures the difference in
arrival times from each. Because the satellites are at
10 known coordinates in geosynchronous orbit, the differences
in arrival time of the radio signals can be used to
determine the distance the receiver is from each
satellite. This is normally accurate to a few meters.
However, the military perturbs the time signals using
random noise to control the accuracy in what is known as
15 "selective availability."

There also exist D-GPS or differential GPS systems, in
which case a fixed ground based transmitter sends its
location and time to a D-GPS receiver. These systems
20 send "corrections" to the time signals that are perturbed
by the military. In so doing, the GPS accuracy can
increase to a few meters. Using more advanced
techniques, for stationary objects, it is possible to
actually achieve accuracy in the centimeter range
25 (essentially using a form of interferometry. In any
case, there is no signal sent out from the GPS receivers.
They know where they are relative to the GPS satellites,
which are all in known spatial coordinates.

With reference again to Figure 1, The matching server may also have access to information about routes and local maps in order to assist the users in finding each other. The matching server also has access to a disabled persons needs, addresses, necessary medications and other information from the database of people with needs and disabilities 101.

Figure 2 provides a detailed example of the database of people with disabilities 101. Module 200 contains the name of the person with disabilities. Module 201 is a description of the person's needs. For instance, 201 may say that the person needs a newspaper read to them, medicine or groceries brought to them, or a conversation translated into sign/or other language. Module 202 notes the type of handicap- blind, hearing-impaired, paralyzed, etc. Module 203 gives a history of prior assistance and help that may guide future volunteers as well as for statistical information that can aid the matching server in creating more efficient and satisfactory service. The matching server can use this information to help plan outlines for assistance for future volunteers. Module 204 is a list of volunteers who helped the disabled person in the past which is connected to the history 203, in order to find a volunteer with experience that is able to help quickly. Module 205 gives a description of methods of how to assist a disabled person. For instance, if a person needs a newspaper read to them, the system may describe a method for how a volunteer can read the newspaper over the phone; or, if a person needs to go

to an office or receive information, then the system notes that the person requires an interpreter.

Figure 3 is a detailed example of a database of
5 volunteers 102. Module 300 indicates the name of the
volunteer. Module 301 describes the skills of the
volunteers, for example- sign language or masseuse
therapist. Module 302 gives a description of services
that the volunteer could offer. Module 303 gives a
10 history of people the volunteer has helped. This
information assists the matching server in assembling a
statistical history that aids optimizing volunteer
assistance to people with disabilities. Module 304 gives
a list of the people with disabilities that the volunteer
15 has helped. Module 305 gives a list of expenses of the
volunteer so they may be reimbursed or tax-deductible
like a donation.

Figure 4 is a detailed outline of the matching server
20 105. The matching server receives input from the
database of people with disabilities 101 and the database
of volunteers 102. The input goes into the communication
module 402 in the matching server. The communication
module is connected to the network and uses data from the
25 databases in order to choose the correct volunteer that
may assist a given person with disabilities. The
communication module 402 also receives requests from the
person with disabilities 400 through the network
(wireless). When the communication module receives a
30 request it contacts both of the databases 101 and 102 and

decides to which volunteers it can send messages. In other words, when the module chooses an appropriate number of volunteers and people with disabilities, this information enters into module 403, the request processor.

From the moment a request from a person with disabilities comes in, the information goes into the request processor that processes the information of the person (names, needs, location 405). The location may be determined with a global positioning system through cellular devices. After a processor has determined the name of the person it does a search in volunteer database 404 to determine which volunteers have the functions that may assist the person with disabilities. It also retrieves an image of the person with disabilities in order to determine which type of people have already assisted the person. This information goes into the comparator 406 where volunteers with different functions, abilities, and certifications are compared as well as their locations with the people with disabilities: who helped who when, was it satisfactory? The comparator makes a candidate list 407 with names of volunteers, ranking of satisfaction of person with disabilities, ways they may serve the people with disabilities. At this point, there is the option to either send the message to several volunteers (if they are all on the same train they may all go to assist the person in need). The other option is to have a dialogue module 408 between the volunteer and the person with disabilities to find a good match.

The module 408 may send information about the location and nature of the problem to the volunteer and receive a response whether the volunteer wishes to assist the person. After several questions, the dialogue module and the comparator sends information into the final chooser which picks the best candidates and sends them a request to attend to the person with disabilities. 408 and 409 also check for a confirmation and turns off once one has been reached. If there is no confirmation received, a message is sent to another candidate.

Figure 5 gives a detailed description of the cellular portable device that the persons with disabilities and volunteers carry in order to communicate. Module 500 is the communicator that communicates with the network. Module 501 is the cellular transmitter to send a signal to and from the user (information about helping). Module 502 receives and sends information by a Global positioning system reader through a satellite. Module 503 are the different means of input: keyboard, mouse, ASR, AHR. Module 504 is the output means Speaker, Display, and others, among them module 505 which is the GUI interface. The GUI interface allows for effective operation of the device. Additionally there is the option for map display, a clock and a beeper (announcing a message) in module 506.

Figure 6 is a flowchart of a preferred embodiment of the invention. Module 600 is when the person with

disabilities sends a request for help. In 601, the matching server searches the people with disabilities and volunteers to find a list of candidates and methods of help. In module 602 (optional because can give
5 coordinates), defines the locations via Global Positioning system. Module 603 sends a request to the list of candidates to treat locations. Module 604 is interacting with candidates to find the final choice. Module 605 sending final request and wait for
10 conformation. Module 606 volunteers perform work to help people with disabilities after they have been chosen.

While it is apparent that the invention herein disclosed is well calculated to fulfill the objects stated above,
15 it will be appreciated that numerous modifications and embodiments may be devised by those skilled in the art, and it is intended that the appended claims cover all such modifications and embodiments as fall within the true spirit and scope of the present invention.

CLAIMS

1 1. A method of providing help to people with
2 disabilities, comprising the steps:

3 a) organizing a network of people with disabilities and
4 of volunteers for helping people with disabilities, each
5 of the persons with disabilities and each of the
6 volunteers having a portable, wireless communications
7 device;

8 b) establishing a database having information about the
9 people with disabilities and about the volunteers;

10 c) at least one of the persons with disabilities, using
11 one of the wireless communications devices to transmit a
12 request for help; and

13 d) at least one of the volunteers receiving the request
14 for help via one of the wireless communications devices.

1 2. A method according to Claim 1, wherein:

2 step (c) includes the step of one of the persons with
3 disabilities using one of the wireless communications
4 devices to transmit a request for help to the network;
5 further comprising the step of the network searching the
6 information in the database to match one of the
7 volunteers with said request; and

8 step (d) includes the step of the network identifying
9 said one of the persons with disabilities to said one of
10 the volunteers via one of the wireless communications
11 devices.

1 3. A method according to Claim 2, further comprising the
2 step of, the volunteers providing at least one service
3 selected from the group comprising:

4 i) reading a newspaper or other information to a blind
5 person,
6 ii) translating a conversation into sign language, and
7 iii) bringing requested items to one of the persons with
8 disabilities.

1 4. A method according to Claim 2, further comprising the
2 step of using a global positioning system to identify the
3 location of said one of the persons with disabilities,
4 and to identify one or more of the volunteers in the
5 vicinity of said one of the persons with disabilities.

1 5. A method according to Claim 2, wherein:
2 the step of establishing a database includes the steps of
3 i) establishing a first database having information about
4 the persons with disabilities, and
5 ii) establishing a second database having information
6 about the volunteers; and
7 the searching step includes the step of the network
8 searching the first and second databases to select and
9 match volunteers and people with disabilities.

1 6. A method according to Claim 2, wherein the searching
2 step includes the step of:
3 using a matching server to search the people with
4 disabilities and the volunteers to find a list of
5 candidate volunteers and methods of help;

6 sending a request to each of the candidate volunteers;
7 interacting with the candidate volunteers to find a final
8 choice volunteer; and
9 sending a final request to the final choice volunteer.

1 7. A system for providing help to people with
2 disabilities, comprising:
3 a network of people with disabilities and of volunteers
4 for helping people with disabilities, each of the persons
5 with disabilities and each of the volunteers having a
6 portable, wireless communications device; and
7 a database having information about the people with
8 disabilities and about the volunteers;
9 at least one of the persons with disabilities using one
10 of the wireless communications devices to transmit a
11 request for help; and
12 at least one of the volunteers receiving the request for
13 help via one of the wireless communications devices.

1 8. A system according to Claim 7, wherein:
2 one of the persons with disabilities uses one of the
3 wireless communications devices to transmit a request for
4 help to the network;
5 the network includes
6 i) means for searching the information in the database to
7 match one of the volunteers with said request, and
8 ii) means for identifying said one of the persons with
9 disabilities to said one of the volunteers via one of the
10 wireless communications devices.

1 9. A system according to Claim 8, wherein the volunteers
2 provide at least one service selected from the group
3 comprising:

4 i) reading a newspaper or other information to a blind
5 person,
6 ii) translating a conversation into sign language, and
7 iii) bringing requested items to one of the persons with
8 disabilities.

1 10. A system according to Claim 8, further comprising a
2 global positioning system to identify the location of
3 said one of the persons with disabilities, and to
4 identify one or more of the volunteers in the vicinity of
5 said one of the persons with disabilities.

1 11. A system according to Claim 8, wherein:

2 the database includes

3 i) a first database having information about the persons
4 with disabilities, and

5 ii) a second database having information about the
6 volunteers; and

7 the searching means includes means for searching the
8 first and second databases to select and match volunteers
9 and people with disabilities.

1 12. A system according to Claim 8, wherein the searching
2 means includes:

3 a matching server to search the people with disabilities
4 and the volunteers to find a list of candidate volunteers
5 and methods of help;

6 means for sending a request to each of the candidate
7 volunteers;
8 means for interacting with the candidate volunteers to
9 find a final choice volunteer; and
10 means for sending a final request to the final choice
11 volunteer.

1 13. A program storage device readable by machine,
2 tangibly embodying a program of instructions executable
3 by the machine to perform method steps for providing help
4 to people with disabilities, said method steps
5 comprising:

6 a) organizing a network of people with disabilities and
7 of volunteers for helping people with disabilities, each
8 of the persons with disabilities and each of the
9 volunteers having a portable, wireless communications
10 device;

11 b) establishing a database having information about the
12 people with disabilities and about the volunteers;

13 c) at least one of the persons with disabilities, using
14 one of the wireless communications devices to transmit a
15 request for help; and

16 d) at least one of the volunteers receiving the request
17 for help via one of the wireless communications devices.

1 14. A program storage device according to Claim 13,
2 wherein:
3 step (c) includes the step of one of the persons with
4 disabilities using one of the wireless communications
5 devices to transmit a request for help to the network;

6 further comprising the step of the network searching the
7 information in the database to match one of the
8 volunteers with said request; and
9 step (d) includes the step of the network identifying
10 said one of the persons with disabilities to said one of
11 the volunteers via one of the wireless communications
12 devices.

1 15. A program storage device according to Claim 14,
2 wherein said method steps further comprise the step of,
3 the volunteers providing at least one service selected
4 from the group comprising:
5 i) reading a newspaper or other information to a blind
6 person,
7 ii) translating a conversation into sign language, and
8 iii) bringing requested items to one of the persons with
9 disabilities.

1 16. A program storage device according to Claim 14,
2 wherein said method steps further comprise the step of
3 using a global positioning system to identify the
4 location of said one of the persons with disabilities,
5 and to identify one or more of the volunteers in the
6 vicinity of said one of the persons with disabilities.

1 17. A program storage device according to Claim 14,
2 wherein:
3 the step of establishing a database includes the steps of
4 i) establishing a first database having information about
5 the persons with disabilities, and

6 ii) establishing a second database having information
7 about the volunteers; and
8 the searching step includes the step of the network
9 searching the first and second databases to select and
10 match volunteers and people with disabilities.

1 18. A program storage device according to Claim 14,
2 wherein the searching step includes the step of:
3 using a matching server to search the people with
4 disabilities and the volunteers to find a list of
5 candidate volunteers and methods of help;
6 sending a request to each of the candidate volunteers;
7 interacting with the candidate volunteers to find a final
8 choice volunteer; and
9 sending a final request to the final choice volunteer.

VOLUNTEER NETWORK SUPPORT GROUP
FOR PEOPLE WITH DISABILITIES

ABSTRACT

5 A volunteer network support group for people with
disabilities. People who would like to assist people
with disabilities may join a service and receive a
wearable device or a palmtop that can communicate
wirelessly through a network. People that join the
10 volunteer network describe the type of disability they
are willing/certified to assist with, available time and
other relevant information. People with disabilities also
join the volunteer service network and are provided with
a wearable wireless device (i.e. Palm top). Disabled
15 persons also specify their particular disability as well
as services that they may require. An example of how
these volunteers may be of use is: When a volunteer is
going to work in the morning on the train, the service
can connect them through the network to a blind person,
20 and the volunteer may assist the blind person by reading
a newspaper through the wireless device (like a cellular
telephone).

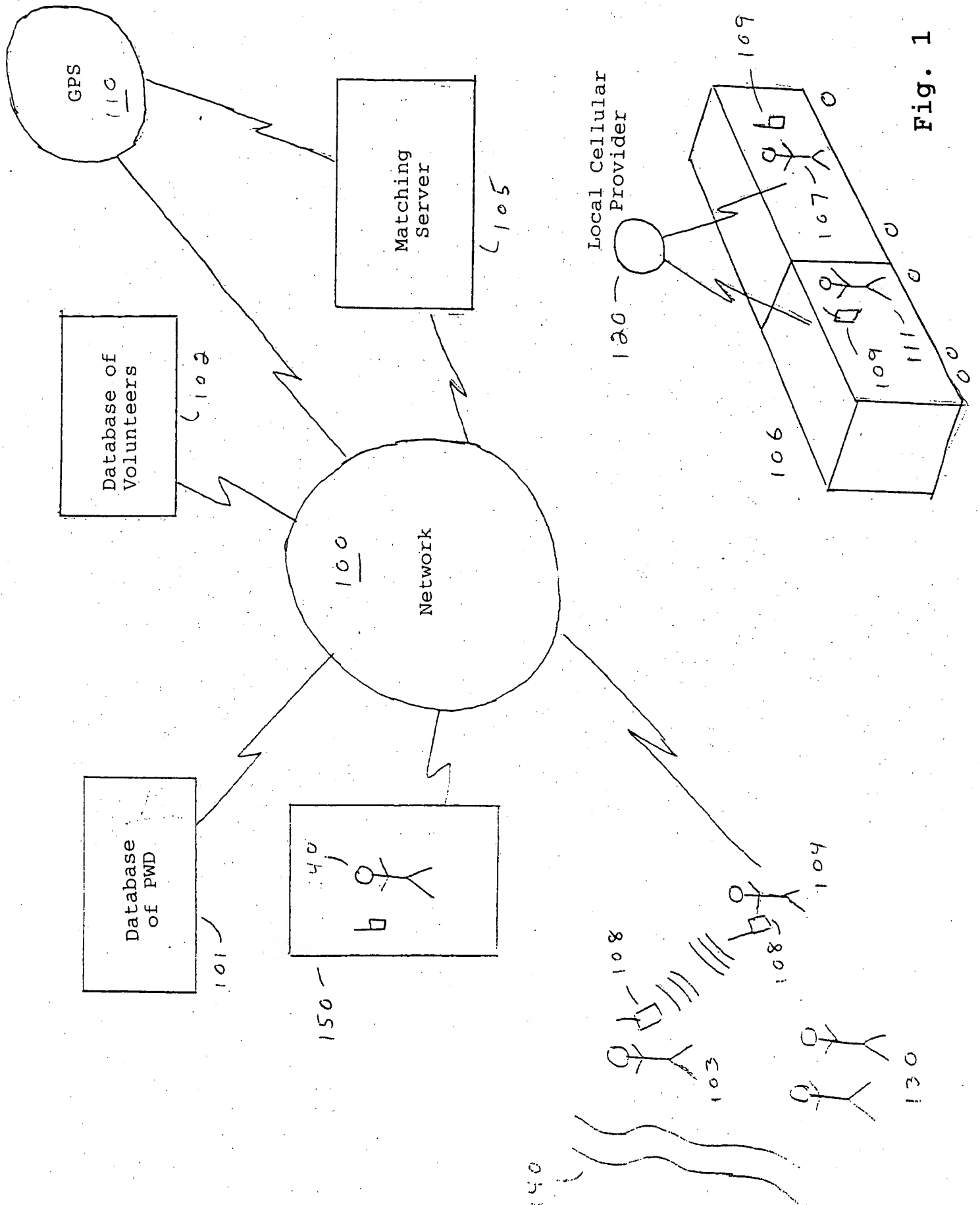


Fig. 1

101 →

| 200 | 201 | 202 | 203 | 204 |
|---|----------------------|------------------|---------|-------------------------------|
| Name of person with disability | Description of needs | Type of handicap | History | List of volunteers who helped |
| 205 Description of methods how to help | | | | |

Fig. 2

102 →

| | | | |
|--|--|--|---------|
| 300 | 301 | 302 | 303 |
| Name of volunteer | Description of skills | Description of services that he/she can offer | History |
| 304 List of people with disabilities that he/she helped | 305 Expenses (tax deductible) | | |

Fig. 3

105 →

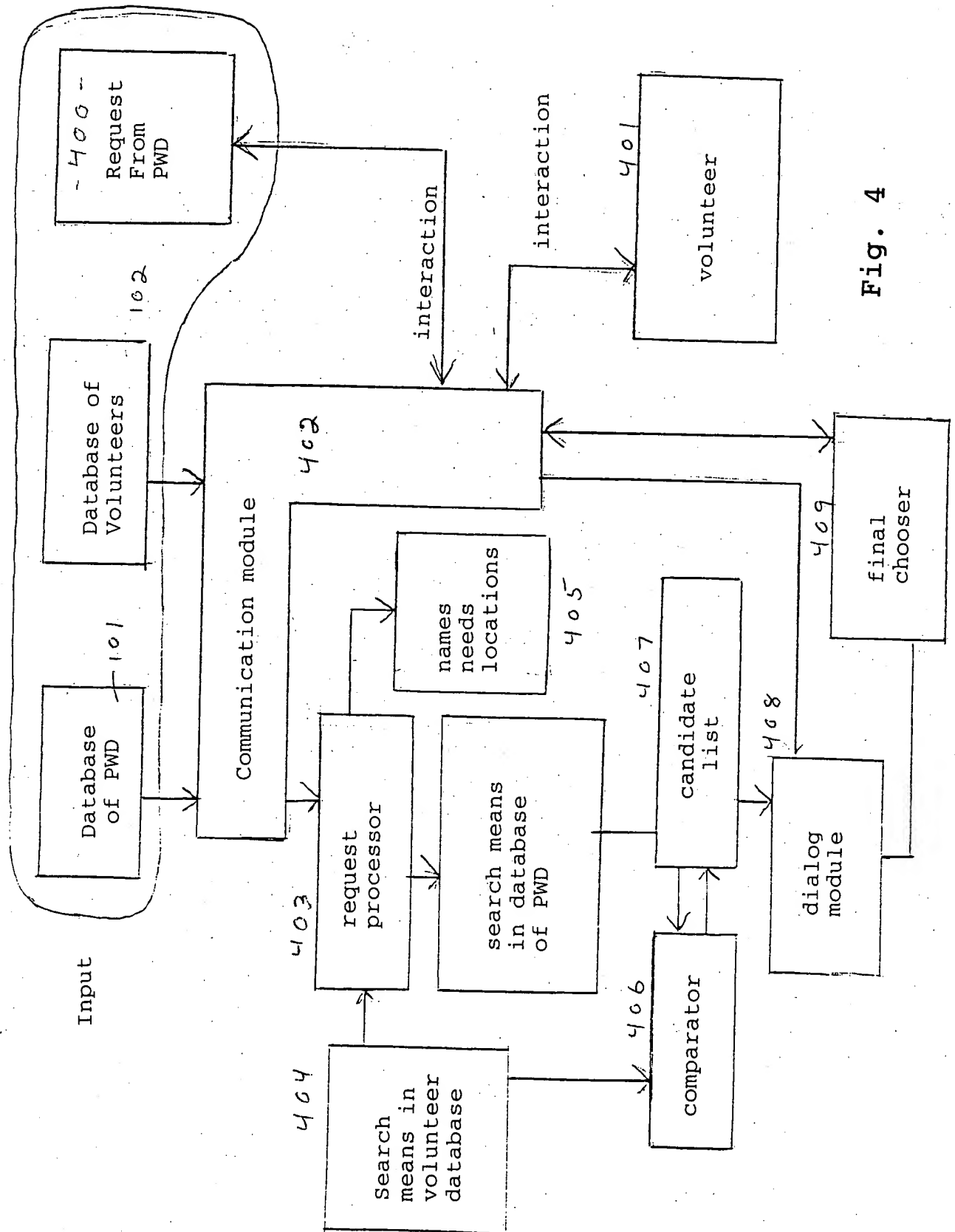


Fig. 4

108

| | |
|---|-----|
| Communicator | 500 |
| Cellular Transmitter | 501 |
| GPS reader | 502 |
| Input Means (keyboard, mouse, ASR, AHR) | 503 |
| Output means (speaker, display) | 504 |
| GUI Interface | 505 |
| Map display, clock, beeper | 506 |

Fig. 5

Fig. 6

